

CLAIMS

What is claimed is:

1. A plant comprising:

5 a divided wall column that receives a feed comprising at least a first component, a second component, and a third component;

wherein a separation section on a feed side of the divided wall column separates the feed into a vapor that comprises the first and the second component, and a liquid that comprises the second and the third component;

10 a differential vapor pressure cell at least partially disposed in the divided wall column at a level below a point where the feed enters the column on the feed side, wherein the differential vapor pressure cell measures a concentration of the first component; and

a partition that separates the feed side from a side product side.

- 15 2. The plant according to claim 1 wherein the differential vapor pressure cell is positioned on the feed side at a level below a point where the feed enters the separation section on the feed side and above a lower end of the partition.

3. The plant according to claim 1 wherein the differential vapor pressure cell is positioned at a level that is identical or below the lower end of the partition.

- 20 4. The plant according to claim 1 wherein the differential vapor pressure cell comprises a reference substance that has a vapor pressure that is substantially identical to a predetermined vapor pressure of the feed at a location where the differential vapor pressure cell is disposed.

- 25 5. The plant according to claim 4 further comprising a control element that receives a signal from the differential vapor pressure cell, wherein the control element regulates a process parameter in the divided wall column.

6. The plant according to claim 5 wherein the process parameter is at least one of temperature, product flow, and internal flow.
7. The plant according to claim 5 wherein the control element regulates the process parameter when about 0.02%(mol) to about 5%(mol) of the first component is present at the location where the differential vapor pressure cell is positioned.
8. The plant according to claim 7 wherein the feed comprises a hydrocarbonaceous feed.
9. The plant according to claim 8 wherein the first component comprises a C₄-fraction, the second component comprises a C₅-fraction and the third component comprises a C₆-fraction.
10. The plant according to claim 1 wherein the divided wall column further comprises a second separation section and a third separation section, wherein the second separation section receives the vapor that comprises the first and the second component and wherein the third separation section receives the liquid that comprises the second and the third component.
11. A method of operating a plant comprising:
- providing a divided wall column with a partition and comprising a separation section on a feed side that receives a feed comprising at least a first component, a second component, and a third component, wherein the partition separates the feed side from a side product side;
- separating the feed in the separation section on the feed side into a vapor that comprises the first and the second component, and a liquid that comprises the second and the third component;
- coupling a differential vapor pressure cell to the divided wall column at a level below a point where the feed enters the divided wall column on the feed side; and
- measuring a concentration of the first component using the differential vapor pressure cell.

12. The method according to claim 11 wherein the differential vapor pressure cell is positioned on the feed side at a level below a point where the feed enters the column on the feed side and above a lower end of the partition.
- 5 13. The method according to claim 11 wherein the differential vapor pressure cell is positioned at a level that is identical or below the lower end of the partition.
14. The method according to claim 11 wherein the differential vapor pressure cell comprises a reference substance that has a vapor pressure that is substantially identical to a predetermined vapor pressure of the feed at a location where the differential vapor pressure cell is disposed.
- 10 15. The method according to claim 14 further comprising a control element that receives a signal from the differential vapor pressure cell, wherein the control element regulates a process parameter in the divided wall column.
16. The method of claim 15 wherein the process parameter is temperature.
17. The method of claim 15 wherein the control element regulates the process parameter when about 0.02%(mol) to about 5%(mol) of the first component is present at the location where the differential vapor pressure cell is positioned.
- 15 18. The method of claim 17 wherein the feed comprises a hydrocarbonaceous feed.
19. The method of claim 18 wherein the first component comprises a C₄-fraction, the second component comprises a C₅-fraction and the third component comprises a C₆-fraction.
- 20 20. The method of claim 11 wherein the divided wall column further comprises a second separation section and a third separation section, wherein the second separation section receives the vapor that comprises the first and the second component and wherein the third separation section receives the liquid that comprises the second and the third component.
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